INDEX

A

Accountant's Report	3
ACHENBACH, P. R., Discussions on: Circuit Analysis Applied to Load Estimating	98
Cooling a Small Residence Using a Perimeter-Loop Duct System	292
Effects of Non-Uniformity and Furnishings on Panel Heating Performance	133
Heat Flow Characteristics of Hot Water Floor Panels	118
Air, Computing Temperatures and Velocities in Vertical Jets of Hot or Cold, by	385
Air Conditioning, Automobile-Progress and Problems, by P. J. Kent	37
Air Conditioning on Plant Growth, Effects of, by F. W. Went	239
Air Conditioning, Room Air Distribution Research for Year 'Round, Part II— Supply Outlets at Three Floor Locations, by H. E. STRAUB and S. F.	249
Air Distribution Research for Year 'Round Air Conditioning, Room, Part II— Supply Outlets at Three Floor Locations, by H. E. STRAUB and S. F. GILMAN	249
Air Flowing Through 45-Degree Wooden Louvers, Pressure Loss of, by P. R.	43
Algren, A. B., E. F. Snyder, Jr. and R. R. Head, Field Studies of Floor Panel Control Systems—Part II	135
Ambrose, E. R., Discussion on Room Air Distribution Research for Year 'Round Air Conditioning, Part II—Supply Outlets at Three Floor Locations	267
Analogue Computer Analysis of Residential Cooling Loads, by T. N. WILLCOX, C. T. OERGEL, S. G. REQUE, C. M. TOELAER and W. R. BRISKEN	505
Annual Meeting, Sixtieth 1954	1
ASHLEY, C. M., Discussions on: Availability and Utilization of Solar Energy	236
Circuit Analysis Applied to Load Estimating	99
Cooling a Small Residence Using a Perimeter-Loop Duct System	294
Room Air Distribution Research for Year 'Round Air Conditioning, Part II—	269
Supply Outlets at Three Floor Locations	37
Availability and Utilization of Solar Energy, by R. C. JORDAN and J. L.	3/
THRELKELD	177
Part I-Solar Energy Availability for Heating in the United States	177
Part II-Utilization of Solar Energy for House Heating	196
Part III-Design and Economics of Solar Energy Heat Pump Systems	212
AVERY, L. T., Discussion on Cooling a Small Residence Using a Perimeter-Loop Duct System	292
В	
BAHNFLETH, D. R., C. F. CHEN and H. T. GILKEY, Cooling a Small Residence	271

550 TRANSACTIONS AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS

BAHNFLETH, D. R. and H. T. GILKEY, Discussion on The Operating Cost of Residential Cooling Equipment
Berly, Edward, Discussion on Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater
Bernstein, Lionel, Tohru Inouye, F. K. Hick and R. W. Keeton, Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients
Bevier, C. W., Discussion on Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers
Brisken, W. R., T. N. Willcox, C. T. Oergel, S. G. Reque and C. M. Toelaer, Analogue Computer Analysis of Residential Cooling Loads
Brisken, W. R., Discussion on Circuit Analysis Applied to Load Estimating
c
CHAPMAN, W. P., Discussion on Effects of Non-Uniformity and Furnishings on Panel Heating Performance
Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater, by Linn Helander, S. M. Yen and L. B. Knee
CHEN, F. C., H. T. GILKEY and D. R. BAHNFLETH, Cooling a Small Residence Using a Perimeter-Loop Duct System
CHEWNING, R. C. and J. DONALD KROEKER, Costs of Operating the Heat Pump in the Equitable Building
CHEWNING, R. C., Discussions on: Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance
The Operating Cost of Residential Cooling Equipment
Circuit Analysis Applied to Load Estimating, by H. B. NOTTAGE and G. V.
Circular Jets, Computation Charts and Theory for Rectangular and, by H. G. Elrop, Jr
COBB, P. R., Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers
Computation Charts and Theory For Rectangular and Circular Jets, by H. G. Elrop, Jr.
Computer Analysis of Residential Cooling Loads, Analogue, by T. N. WILLCOX, C. T. OERGEL, S. G. REQUE, C. M. TOELAER and W. R. BRISKEN
Computing Temperatures and Velocities in Vertical Jets of Hot or Cold Air, by ALFRED KOESTEL
Conductivity Apparatus, A Rapid Heat Meter Thermal, by J. D. Verschoor and Ada Wilber
CONNOLLY, T. J. and J. C. HARPER, Discussion on Prediction of Cooling Tower Performance
Control Systems, Field Studies of Floor Panel—Part II, by A. B. Algren, E. F. Snyder, Jr. and R. R. Head
Cooling a Small Residence Using a Perimeter-Loop Duct System, by D. R. BAHNFLETH, C. F. CHEN and H. T. GILKEY
Cooling Equipment, The Operating Cost of Residential, by S. F. GILMAN, L. A. HALL and E. P. PALMATIER.
Cooling Loads, Analogue Computer Analysis of Residential, by T. N. WILLCOX, C. T. OERGEL S. G. REQUE, C. M. TOELAER and W. R. BRISKEN

INDEX TO TRANSACTIONS, 1954	551
Cooling Loads From Sunlit Glass and Wall, by C. O. MACKEY and N. R. GAY Cooling Studies in A Research Home, by W. S. HARRIS and P. J. WAIBLER Cooling Tower Performance, Prediction of, by Wesley W. SMITH Cost of Residential Cooling Equipment, The Operating, by S. F. GILMAN, L. A. HALL and E. P. PALMATIER	469 487 27 525
Costs of Operating the Heat Pump in the Equitable Building, by J. Donald Kroeker and Ray C. Chewning	157
Council, Report of	9
D	
Dane, I. S., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	381
Cooling Studies in A Research Home	503
DECKER, H. M., J. B. HARSTAD, F. J. PIPER and M. E. WILSON, Filtration of Microorganisms From Air by Glass Fiber Media	445
DEGLER, H. E., Discussion on Prediction of Cooling Tower Performance	34
Design and Economics of Solar Energy Heat Pump Systems (Part III of Availability and Utilization of Solar Energy, by R. C. JORDAN and J. L. THRELKELD	212
DIEHL, A. E., Discussions on: Cooling Studies in A Research Home	501
The Operating Cost of Residential Cooling Equipment	538
Diffuse Solar Radiation From Cloudless Skies, Irradiation of Vertical and Horizontal Surfaces by, by G. V. Parmelee	341
DILL, R. S., Discussion on Heat Flow Characteristics of Hot Water Floor Panels	119
Duct System, Cooling a Small Residence Using a Perimeter-Loop, by D. R. BAHNFLETH, C. F. CHEN and H. T. GILKEY	271
Duncan, S. F., Discussion on Filtration of Microorganisms From Air by Glass Fiber Media	452
E	
EDWARDS, R. C., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	381
Computing Temperatures and Velocities in Vertical Jets of Hot or Cold Air	410
Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	357
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	326
Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	426
Effects of Air Conditioning on Plant Growth, by F. W. Went	239
Effects of Non-Uniformity and Furnishings on Panel Heating Performance, by L. F. Schutrum and C. M. Humphreys	121
Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance, by L. F. Schutrum and J. D. Vouris	455
Ellenberger, F. R., Discussion on The Operating Cost of Residential Cooling Equipment	539

The same

EEO	TRANSACTIONS	A	Coorney or	Linemand	17	Caronana
002	I RANSACTIONS	AMERICAN	SOCIETY OF	TIEATING AND	VENTILATING	ENGINEERS

	G., Jr., Computation Charts and Theory for Rectangular and Circu Jets
Stud Patie	nt, Physiological Responses to Sudden Changes in Atmosphericies of Normal Subjects, Obese, Hyperthyroid and Hypothyroients, by Тонки Імойче, F. K. Ніск, M.D., R. W. Кеетом, M.D. and BERNSTEIN, M.D
Equitable 1	Building, Costs of Operating the Heat Pump in the, by J. DONAL
	JOHN, Jr., Discussion on Effects of Non-Uniformity and Furnishing Panel Heating Performance
	F
Filtration of J. B.	of Microorganisms From Air by Glass Fiber Media, by H. M. DECKEI HARSTED, F. J. PIPER and M. E. WILSON
FISHER, B.	P., Discussions on: Availability and Utilization of Solar Energy
Effects	of Air Conditioning on Plant Growth
	es of Floor Panel Control Systems—Part II, by A. B. Algren, E. I Der, Jr. and R. R. Head
Floor Pane Snyi	d Control Systems, Field Studies of—Part II, by A. B. Algren, E. F. Der, Jr. and R. R. Head
	els, Heat Flow Characteristics of Hot Water, by E. L. SARTAIN and S. HARRIS
	Vater Through Pipe and Fittings, Sound-Pressure Levels and Frecies Produced by, by W. L. Rogers
	s on Panel Heating Performance, Effects of Non-Uniformity and F. Schutrum and C. M. Humphreys
	G
GAY, N. R.	and C. O. MACKEY, Cooling Loads From Sunlit Glass and Wall
Сна і, М. І	, Discussions on: Availability and Utilization of Solar Energy
	of Room Size and Non-Uniformity of Panel Temperature on Pane
GILKEY, H. Usin	T., D. R. BAHNFLETH and C. F. CHEN, Cooling a Small Residence g a Perimeter-Loop Duct System
	. T. and D. R. Bahnfleth, Discussion on The Operating Cost of lential Cooling Equipment
GILMAN, S'Rou	. F. and H. E. Straub, Room Air Distribution Research for Yea nd Air Conditioning, Part II—Supply Outlets at Three Floor Location
GILMAN, S Resid	6. F., L. A. HALL and E. P. PALMATIER, The Operating Cost of
GILMAN, S	is, F., Discussions on: Analogue Computer Analysis of Residentia
Cooling	a Small Residence Using a Perimeter-Loop Duct System
Pressure	e Loss of Air Flowing Through 45-Degree Wooden Louvers
Glass and \	Wall, Cooling Loads From Sunlit, by C. O. MACKEY and N. R. GAY
Glass Fibe	r Media, Filtration of Microorganisms From Air by, by H. M KER, J. B. HARSTAD, F. J. PIPER and M. E. WILSON

GLICKMAN, NATHANIEL, Discussion on Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients
GORDON, P. B., Discussion on Heat Flow Characteristics of Hot Water Floor Panels
Grant, W. A., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients
GRANT, W. A. and E. P. PALMATIER, Discussion on Cooling Studies in A Research Home
н
HALL, L. A., E. P. PALMATIER and S. F. GILMAN, The Operating Cost of Residential Cooling Equipment
HARDY, H. C., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings
HARPER, J. C. and T. J. CONNOLLY, Discussion on Prediction of Cooling Tower Performance
HARRIS, W. S. and E. L. SARTAIN, Heat Flow Characteristics of Hot Water Floor Panels
HARRIS, W. S. and P. J. WAIBLER, Cooling Studies in A Research Home
HARSTAD, J. B., F. J. PIPER, M. E. WILSON and H. M. DECKER, Filtration of Microorganisms From Air by Glass Fiber Media
HATTERSLEY, E. H., Discussion on Costs of Operating the Heat Pump in the Equitable Building
Head, R. R., A. B. Algren and E. F. Snyder, Jr., Field Studies of Floor Panel Control Systems—Part II
Heat Flow Characteristics of Hot Water Floor Panels, by E. L. SARTAIN and W. S. HARRIS
Heat Meter Thermal Conductivity Apparatus, A Rapid, by J. D. Verschoor and Ada Wilber
Heat Pump in the Equitable Building, Cost of Operating the, by J. Donald Kroeker and Ray C. Chewning
Heated Air From A Vertical Discharge Unit Heater, Characteristics of Downward Jets of, by Linn Helander, S. M. Yen and L. B. Knee
Helander, Linn, Discussion on Computing Temperatures and Velocities in Vertical Jets of Hot or Cold Air
Helander, Linn, S. M. Yen and L. B. Knee, Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater
Hess, A. J., Discussion on Effects of Air Conditioning on Plant Growth
HICK, F. K., R. W. KEETON, LIONEL BERNSTEIN and TOHRU INOUYE, Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients
Home, Cooling Studies in A Research, by W. S. HARRIS and P. J. WAIBLER
Hot Water Floor Panels, Heat Flow Characteristics of, by E. L. SARTAIN and W. S. HARRIS
Hubbard, A. B., Discussion on Filtration of Microorganisms From Air by Glass Fiber Media

554 Transactions American Society of Heating and Ventilating Engineers	
HUEBNER, W. O., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	380
Computing Temperatures and Velocities in Vertical Jets of Hot or Cold Air	409
Room Air Distribution Research for Year 'Round Air Conditioning, Part II— Supply Outlets at Three Floor Locations	268
HUMPHREYS, C. M. and L. F. SCHUTRUM, Effects of Non-Uniformity and Furnishings on Panel Heating Performance	121
HUMPHREYS, C. M., Discussion on Circuit Analysis Applied to Load Estimating	99
ī	
INOUYE, TOHRU, F. K. HICK, R. W. KEETON and LIONEL BERNSTEIN, Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	315
Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies, by G. V. Parmelee	341
J	
James, John W., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	427
Jets, Computation Charts and Theory for Rectangular and Circular, by H. G. Elrod, Jr.	431
Jets of Heated Air From A Vertical Discharge Unit Heater, Characteristics of Downward, by Linn Helander, S. M. Yen and L. B. Knee	359
Jets of Hot or Cold Air, Computing Temperatures and Velocities in Vertical, by Alfred Koestel	385
Jones, A. T., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	428
JORDAN, R. C. and J. L. THRELKELD, Availability and Utilization of Solar Energy	177
Joy, F. A., Discussion on A Rapid Heat Meter Thermal Conductivity Apparatus	338
K	
KAYAN, C. F., Discussions on: Analogue Computer Analysis of Residential Cooling Loads	521
Circuit Analysis Applied to Load Estimating	97
Cooling Loads From Sunlit Glass and Wall	483
Field Studies of Floor Panel Control Systems-Part II	155
KEETON, R. W., LIONEL BERNSTEIN, TOHRU INOUYE and F. K. HICK, Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	315
Kent, P. J., Automobile Air Conditioning-Progress and Problems	37
Kern, R. T., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	424

INDEX TO TRANSACTIONS, 1954	58
Kroeker, J. Donald and Ray C. Chewning, Costs of Operating the Heat Pump in the Equitable Building	15
KUEHNER, R. L., Discussion on Filtration of Microorganisms from Air by Glass Fiber Media	4.
L	
LEGLER, F. W., Discussion on Cooling Studies in A Research Home	5
Leopold, C. S., Discussions on: Analogue Computer Analysis of Residential Cooling Loads	5
Cooling Loads From Sunlit Glass and Wall	4
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	3
Load Estimating, Circuit Analysis Applied to, by H. B. NOTTAGE and G. V. PARMELEE	
LOCKHART, H. A., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	4
LOKEY, E. R., Discussion on Costs of Operating the Heat Pump in the Equitable Building	1
Louvers, Pressure Loss of Air Flowing Through 45-Degree Wooden, by P. R. COBB	
м	
MACDONALD, T. H. Discussion on Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	3
MACKEY, C. O. and N. R. GAY, Cooling Loads From Sunlit Glass and Wall	4
MALONE, T. F., Discussion on Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	3
MART, L. T., Discussion on Prediction of Cooling Tower Performance	
McKinley, R. W. Discussions on: Availability and Utilization of Solar Energy	2
Cooling Loads From Sunlit Glass and Wall	4
Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	3
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	3
Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers	
McNall, P. E., Jr. and D. J. Sutton, A Two-Sphere Radiometer	2
McNall, P. E., Jr., Discussions on: Circuit Analysis Applied to Load Estimating	
Heat Flow Characteristics of Hot Water Floor Panels	1

Microorganisms From Air by Glass Fiber Media, Filtration of, by H. M. Decker, J. B. Harstad, F. J. Piper and M. E. Wilson.....

556 Transactions American Society of Heating and Ventilating Engineer
Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance
Myler, W. M., Jr., Discussion on Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater
N
Newton, A. B., Discussions on: Analogue Computer Analysis of Residential Cooling Loads
Availability and Utilization of Solar Energy
Cooling a Small Residence Using a Perimeter-Loop Duct System
Cooling Studies in A Research Home
Non-Uniformity and Furnishings on Panel Heating Performance, Effects of, by L. F. Schutrum and C. M. Humphreys
Non-Uniformity of Panel Temperature on Panel Performance, Effects of Room Size and, by L. F. Schutrum and J. D. Vouris
NOTTAGE, H. B. and G. V. PARMELEE, Circuit Analysis Applied to Load Estimating
Nottage, H. B., Discussions on: Automobile Air Conditioning—Progress and Problems
Prediction of Cooling Tower Performance
Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers
o
Oergel, C. T., S. G. Reque, C. M. Toellaer, W. R. Brisken and T. N. Willcox, Analogue Computer Analysis of Residential Cooling Loads
Operating Cost of Residential Cooling Equipment, The, by S. F. GILMAN, L. A. HALL and E. P. PALMATIER
P
PALMATIER, E. P., S. F. GILMAN and L. A. HALL, The Operating Cost of Residential Cooling Equipment
PALMATIER, E. P., Discussion on Circuit Analysis Applied to Load Estimating
PALMATIER, E. P. and W. A. Grant, Discussion on Cooling Studies in A Research Home
Panel Heating Performance, Effects of Non-Uniformity and Furnishings on, by L. F. Schutrum and C. M. Humphreys
Panel Temperature on Panel Performance, Effects of Room Size and Non-Uniformity of, L. F. Schutrum and J. D. Vouris
PARMELEE, G. V. and H. B. NOTTAGE, Circuit Analysis Applied to Load Estimating
Parmelee, G. V., Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies
PARMELEE, G. V., Discussions on: Availability ond Utilization of Solar Energy
Cooling Loads From Sunlit Glass and Wall

PHILLIPS, L. R., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	381
Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients, by Tohru Inouye, F. K. Hick, M.D., R. W. Keeton, M.D. and Lionel Bernstein, M.D.	315
Pipe and Fittings, Sound-Pressure Levels and Frequencies Produced by Flow of Water through, by W. L. Rogers	411
PIPER, F. J., M. E. WILSON, H. M. DECKER and J. B. HARSTAD, Filtration of Microorganisms From Air by Glass Fiber Media	445
Plant Growth, Effects of Air Conditioning on, by F. W. Went	239
Prediction of Cooling Tower Performance, by Wesley W. Smith	27
Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers, by P. R. Cobb	43
Proceedings, Annual Meeting	1
Semi-Annual Meeting	309
Program-60th Annual Meeting	23
Semi-Annual Meeting	31
R	
Rabe, F. W., Discussion on Pressure Loss of Air Flowing Through 45-Degree Wooden Louvers	56
Radiation From Cloudless Skies, Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar, by G. V. PARMELEE	341
Rapid Heat Meter Thermal Conductivity Apparatus, A, by J. D. Verschoor and Ada Wilber	329
Rectangular and Circular Jets, Computation Charts and Theory for, by H. G.	43
REQUE, S. G., C. M. TOELAER, W. R. BRISKEN, T. N. WILLCOX and C. T. OERGEL, Analogue Computer Analysis of Residential Cooling Loads	505
Research, Committee on, Annual Report of	11
Residence Using a Perimeter-Loop Duct System, Cooling a Small, by D. R. BAHNFLETH, C. F. CHEN and H. T. GILKEY	271
Residential Cooling Equipment, The Operating Cost of, by S. F. GILMAN, L. A. HALL and E. P. PALMATIER	525
Residential Cooling Loads, Analogue Computer Analysis of, by T. N. WILLCOX, C. T. OERGEL, S. G. REQUE, C. M. TOELAER and W. R. BRISKEN	505
Responses to Sudden Changes in Atmospheric Environment, Physiological, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients, by Tohru Induye, F. K. Hick, M.D., R. W. Keeton, M.D. and Lionel Bernstein, M.D.	315
ROGERS, W. L., Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	411
Room Air Distribution Research for Year 'Round Air Conditioning, Part II— Supply Outlets at Three Floor Locations, by H. E. STRAUB and S. F. GILMAN	249
Room Size and Non-Uniformity of Panel Temperature on Panel Performance, Effects of, by L. F. Schutrum and J. D. Vouris	455

SARTAIN, E. L. and W. S. HARRIS, Heat Flow Characteristics of Hot Water Floor Panels
SARTAIN, E. L., Discussions on: Effects of Non-Uniformity and Furnishings on Panel Heating Performance
Field Studies of Floor Panel Control Systems-Part II 155
Schutrum, L. F. and C. M. Humphreys, Effects of Non-Uniformity and Furnishings on Panel Heating Performance
SCHUTRUM, L. F. and J. D. VOURIS, Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance
Schutrum, L. F., Discussion on A Rapid Heat Meter Thermal Conductivity Apparatus 339
Semi-Annual Meeting
Sixtieth Annual Meeting, 1954
Accountant's Report
Council, Report of
Research Committee, 1953 Report of
Treasurer's Report
Skies, Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies, by G. V. PARMELEE
SMITH, WESLEY W., Prediction of Cooling Tower Performance
SNYDER, E. F., JR., R. R. HEAD and A. B. ALGREN, Field Studies of Floor Panel Control Systems—Part II
Solar Energy, Availability and Utilization of, by R. C. JORDAN and J. L. THRELKELD
Solar Energy Availability for Heating in the United States (Part I of Availability and Utilization of Solar Energy, by R. C. JORDAN and J. L. THRELKELD)
Solar Radiation From Cloudless Skies, Irradiation of Vertical and Horizontal Surfaces by Diffuse, by G. V. PARMELEE
Sound-Pressure Levels and Frequencies Produced By Flow of Water Through Pipe and Fittings, by W. L. ROGERS
Special Meeting
STRAUB, H. E. and S. F. GILMAN, Room Air Distribution Research for Year 'Round Air Conditioning, Part II—Supply Outlets at Three Floor Locations 249
Studies in A Research Home, Cooling, by W. S. HARRIS and P. J. WAIBLER 487
Sunlit Glass and Wall, Cooling Loads From, by C. O. MACKEY and N. R. GAY 469
SUTTON, D. J. and P. E. McNall, Jr., A Two-Sphere Radiometer 297
т
Temperatures and Velocities in Vertical Jets of Hot or Cold Air, Computing, by Alfred Koestel
Teske, E. R., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings
Thermal Conductivity Apparatus, A Rapid Heat Meter, by J. D. Verschoor and Ada Wilber
THRELKELD, J. L. and R. C. JORDAN, Availability and Utilization of Solar Energy 177

INDEX	TO	TRANSACTIONS,	1954
THEFT	10	I KAMBACITONS,	1001

TOELAER, C. M., W. R. Brisken, T. N. Willox, C. T. Oergel and S. G. Reque, Analogue Computer Analysis of Residential Cooling Loads
TOELAER, C. M., Discussion on The Operating Cost of Residential Cooling Equipment
Treasurer's Report
Tuve, G. L., Discussion on Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater
Two-Sphere Radiometer, A, by D. J. SUTTON and P. E. McNall, JR
U
Unit Heater, Characteristics of Downward Jets of Heated Air From A Vertical Discharge, by LINN HELANDER, S. M. YEN and L. B. KNEE
Utilization of Solar Energy, Availability and, by R. C. Jordan and J. L. Threlkeld
Utilization of Solar Energy for House Heating (Part II of Availability and Utilization of Solar Energy, by R. C. JORDAN and J. L. THRELKELD)
v
VANDERWEIL, R. G., Discussions on: Analogue Computer Analysis of Residential Cooling Loads
Availability and Utilization of Solar Energy
Cooling Loads From Sunlit Glass and Wall
Costs of Operating the Heat Pump in the Equitable Building
Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance
Heat Flow Characteristics of Hot Water Floor Panels
Velocities in Vertical Jets of Hot or Cold Air, Computing Temperatures and, by Alfred Koestel
Verschoor, J. D. and Ada Wilber, A Rapid Heat Meter Thermal Conductivity Apparatus
Vertical Jets of Hot or Cold Air, Computing Temperatures and Velocities in, by Alfred Koestel
Vouris, J. D. and L. F. Schutrum, Effects of Room Size and Non-Uniformity of Panel Temperature on Panel Performance
w
Waibler, P. J. and W. S. Harris, Cooling Studies in A Research Home
Wall, Cooling Loads From Sunlit Glass and, by C. O. MACKEY and N. R. GAY
WALLACE, W. M., II, Discussions on: Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients
Prediction of Cooling Tower Performance
Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings
Water Through Pipe and Fittings, Sound-Pressure Levels and Frequencies Produced by, by W. L. ROGERS

EGO	TRANSACTIONS	Assentation	COCKETT OF	LITATION AND	VENNERT AMERICA	ENGRAPARA

Weber, E. L., Discussion on Sound-Pressure Levels and Frequencies Produced by Flow of Water Through Pipe and Fittings	426
Went, F. W., Effects of Air Conditioning on Plant Growth	239
WHILLIER, AUSTIN, Discussions on: A Rapid Heat Meter Thermal Conductivity Apparatus	339
Availability and Utilization of Solar Energy	231
Irradiation of Vertical and Horizontal Surfaces by Diffuse Solar Radiation From Cloudless Skies	357
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	325
Wilber, Ada and J. D. Verschoor, A Rapid Heat Meter Thermal Conductivity Apparatus	329
WILLCOX, T. N., C. T. OERGEL, S. G. REQUE, C. M. TOELAER and W. R. BRISKEN, Analogue Computer Analysis of Residential Cooling Loads	505
WILSON, M. E., H. M. DECKER, J. B. HARSTAD and F. J. PIPER, Filtration of Microorganisms From Air by Glass Fiber Media	445
Y	
Year 'Round Air Conditioning, Room Air Distribrution Research for, Part II— Supply Outlets at Three Floor Locations, by H. E. STRAUB and S. F. GILMAN	249
YEN, S. M., L. B. KNEE and LINN HELANDER, Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	359
Yousoufian, H. H., Discussion on Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	381
z	
ZIEL, H. E., Discussions on: Characteristics of Downward Jets of Heated Air From A Vertical Discharge Unit Heater	382
Costs of Operating the Heat Pump in the Equitable Building	175
Physiological Responses to Sudden Changes in Atmospheric Environment, Studies of Normal Subjects, Obese, Hyperthyroid and Hypothyroid Patients	324

